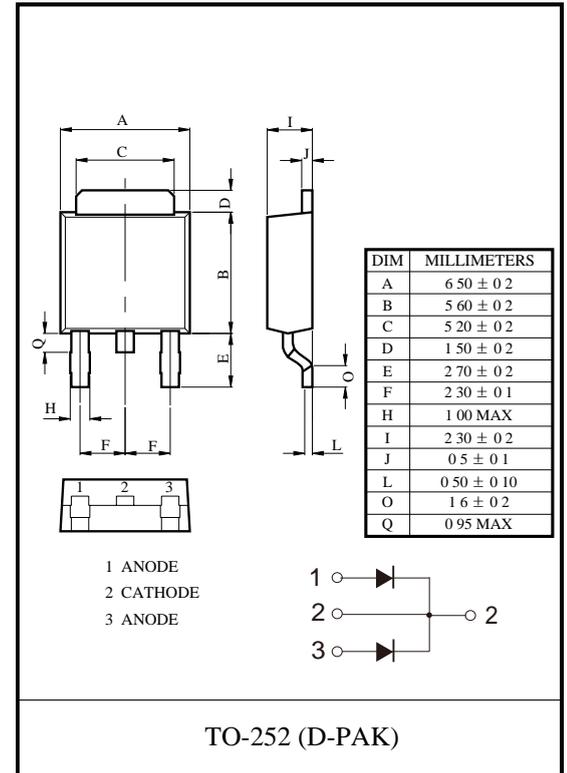


MBRD1045CT SCHOTTKY BARRIER RECTIFIER

FEATURES

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	45	V
V_{RWM}	Working peak reverse voltage		
$V_{R(RMS)}$	RMS reverse voltage	36	V
I_O	Average rectified output current	10	A
I_{FSM}	Non-repetitive peak forward surge current 8.3ms half sine wave	125	A
$R_{\theta JA}$	Thermal resistance from junction to ambient (note : Test with 2inch Al board)	50	$^\circ\text{C}/\text{W}$
T_j	Junction temperature	150	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	45			V
Reverse current	I_R	$V_R=60\text{V}$			100	μA
Forward voltage	$V_{F(1)}$	$I_F=5\text{A}$ $T_j=25^\circ\text{C}$			0.60	V
		$I_F=5\text{A}$ $T_j=125^\circ\text{C}$			0.55	V
	$V_{F(2)}^*$	$I_F=10\text{A}$			0.70	V
Typical total capacitance	C_{tot}	$V_R=4\text{V}, f=1\text{MHz}$		150		pF

*Pulse test

Typical Characteristics

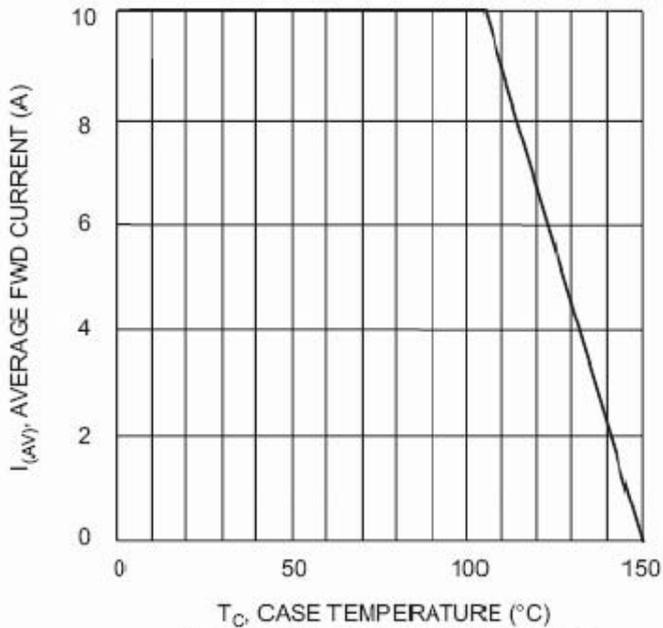


Fig. 1 Forward Current Derating Curve

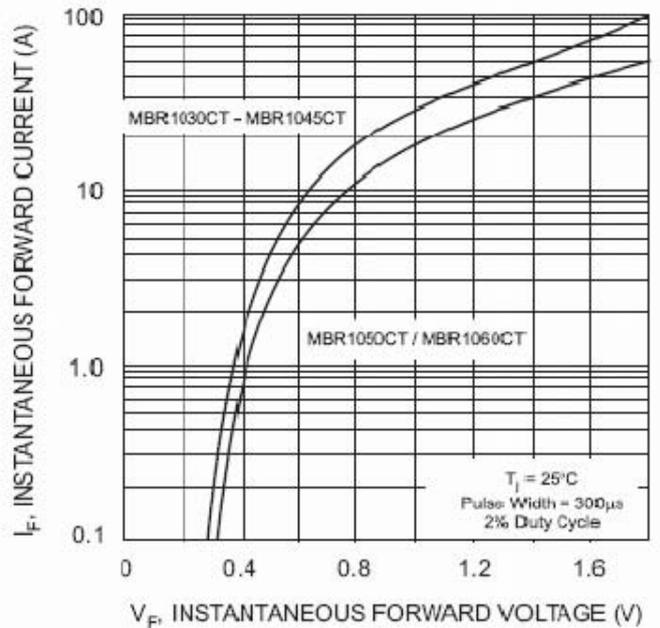


Fig. 2 Typical Forward Characteristics

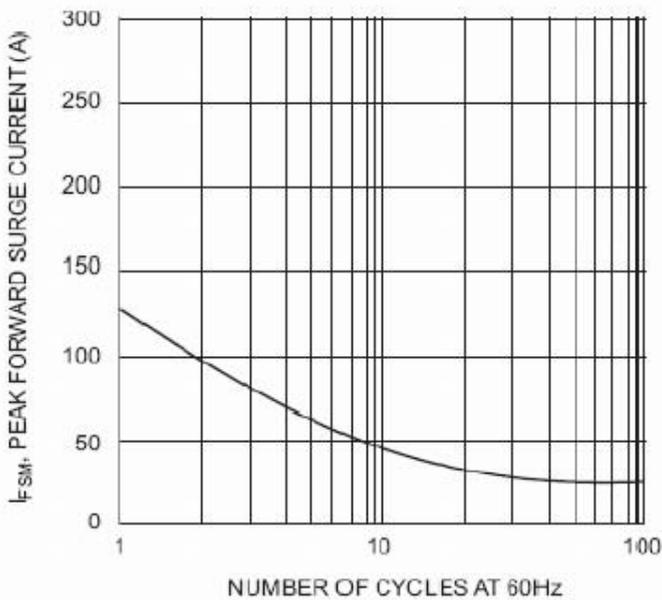


Fig. 3 Max Non-Repetitive Surge Current

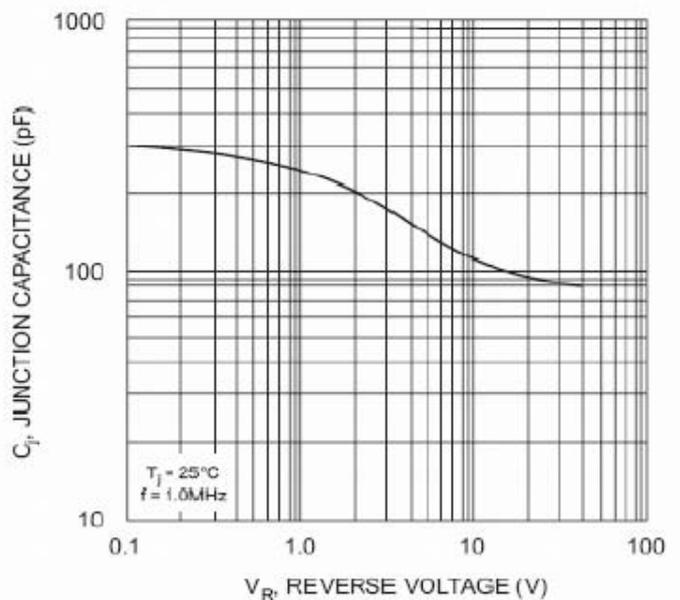


Fig. 4 Typical Junction Capacitance